

REMARKS

Claims 1-14 and 16-18 are currently pending in the application. Claims 1, 16, and 18 are in independent form.

Claims 1-3, 5-7, 12-14, and 16-17 stand rejected under 35 U.S.C. §103(a) as obvious over the King patent in view of the Horne patent. Reconsideration of the rejection under 35 U.S.C. §103(a) over the King patent in view of the Horne patent, as applied to the claims, is respectfully requested.

It is Hornbook Law that before two or more references may be combined to negative patentability of a claimed invention, at least one of the references must teach or suggest the benefits to be obtained by the combination. This statement of law was first set forth in the landmark case of Ex parte McCullom, 204 O.G. 1346; 1914 C.D. 70. Assistant Commissioner Newton rendered this decision upon appeal from the Examiner-in-Chief and dealt with the matter of combination of references. Since then, many courts have affirmed this doctrine over the years.

The applicable law was more recently restated by the Court of Appeals for the Federal Circuit in the case of ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572,1577, 221 U.S.P.Q. 929 (Fed. Cir. 1984). In this case the Court stated, on page 933, as follows:

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103 teachings of references can be combined only if there is some suggestion or incentive to do so. The prior art of record fails to provide any such suggestion or incentive. Accordingly we hold that the court below erred as a matter of law in concluding that the claimed invention would have been obvious to one of ordinary skill in the art under section 103.

This Doctrine was even more recently reaffirmed by the CAFC in Ashland Oil, Inc. v. Delta Resins and Refractories, Inc., et al., 776 F.2d 281,297, 227 U.S.P.Q. 657,667. As stated, the District Court concluded:

Obviousness, however, cannot be established by combining the teachings of the prior art to produce the claimed invention unless there was some teaching, suggestion, or incentive in this prior art which would have made such a combination appropriate.

The Court cited ACS Hospital Systems, Inc. in support of its ruling. This Doctrine was reaffirmed in In re Deuel, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995).

The Office Action states that the King patent discloses the recited hose assembly comprising a tubular first layer made of a polymeric material resistant to chemical and heat degradation, which can be provided with carbon black to dissipate electrical charge, a jacket layer disposed about the inner layer, and at least one aramid fiber braided layer disposed between the inner and jacket layers, wherein glass fibers can be also used in combination with the aramid fibers. The inner and jacket layers can be formed of a fluorocarbon material such as PTFE. Coupling means can be provided on the hose ends.

However, when read more specifically, the King patent discloses a hose assembly including an inner layer 12, a braided layer attached to the exterior of the inner layer, and a polymeric dispersion of coating 14 that is coated on the braided layer 13. Numeral 11, as stated in column 2, lines 45-50, indicates a tubular member. The tubular member includes therein the inner organic polymeric liner 12 and the braided layer. A coating 14 is placed about the braided layer and is used to adhere the braided layer to the inner liner 12. While the coating covers the yarn fibers of the braided layer, as stated in column 4, lines 58-63, the coating does not extend radially outward from the outer periphery of the braided layer. In fact, after the material has been coated, the yarn is discernable such that the braided layer

merely has a thin coating thereupon. This is in contradistinction with the assembly as claimed in the presently pending independent claims wherein the assembly includes a jacket that is extruded about the braided layer, thus creating a firm bond between the extruded layer and the braided layer. The jacket is extruded about the braided layer and it is this extrusion process that enables the braided layer to be maintained in place after having been wound about the inner layer.

The outer jacket provides an exterior surface for additional protection. The jacket allows the first layer to be bent in a tighter radius without kinking as specifically disclosed on page 6, lines 8-20. The jacket provides strength to the first layer and further allows the hose assembly to accommodate a fluid under pressure. This is in contradistinction with the hose assembly of the King patent, wherein a coating is merely used to affix the braid onto the inner layer and the coating does not extend radially outward from the braided layer. Additionally, while a coating can be used to affix the braid to the inner liner in the hose assembly of the presently pending independent claims, the jacket is used to protect the exterior of the hose assembly and further maintains the braid in its proper configuration. In the presently pending claims, the jacket does not function to affix the braid to the inner liner. Instead, the jacket helps maintain the braid in proper configuration without concern of affixing the braid to the inner layer.

The Office Action states further that the Horne patent discloses the recited hose assembly including an inner layer, and a reinforced layer made up of different fibers where the outer layer can be extruded over and then embedded in the reinforcement layer. However, the Horne patent does not disclose using an aramid-like braided layer for the reinforcing layer. The benefit of the aramid-like layer is that it is capable of passing volumetric tests and whip tests better than a standard braided layer. Therefore, the Horne patent does not disclose or suggest the hose assembly of the presently pending claims.

The Office Action also concludes that it would be obvious to modify the outer layer of the King patent using an extrusion process to place the layer on the outside of the reinforcement layer and then embed it into the reinforcement layer as suggested by the Horne patent. However, as stated above, neither the King patent nor the Horne patent discloses or suggests the use of the reinforcing layer as set forth in the presently pending claims. Accordingly, the claims are patentable over the prior art and reconsideration of the rejection is respectfully requested.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the King patent in view of the Horne patent and further in view of the Nie patent. Reconsideration of the rejection is respectfully requested.

The Office Action states that the King patent discloses the recited hose assembly comprising a tubular first layer made of a polymeric material resistant to chemical and heat degradation, which can be provided with carbon black to dissipate electrical charge, a jacket layer disposed about the inner layer, and at least one aramid fiber braided layer disposed between the inner and jacket layers, wherein glass fibers can be also used in combination with the aramid fibers. However, the jacket does not function to affix the braid to the inner liner as occurs with the hose assembly of the presently pending claims. Instead the jacket of the Noone et al. patent helps maintain the braid in proper configuration without concern of affixing the braid to the inner layer.

The Office Action states further that the Horne patent discloses the recited hose assembly including an inner layer, and a reinforced layer made up of different fibers where the outer layer can be extruded over and then embedded in the reinforcement layer. However, the Horne patent does not disclose using an aramid-like braided layer for the reinforcing layer. The benefit of the aramid-like layer as claimed in the presently pending claims is that is capable of passing volumetric tests and whip tests better than a standard braided layer. The hose assembly is therefore more stable and better suited for use in a fuel system.

Therefore, the Horne patent does not disclose or suggest the hose assembly of the presently pending claims.

The Office Action also states that the Nie patent discloses that inner tube layers can be formed of polyketones when desired to meet the environmental needs of the hose to resist permeation of specific materials to be carried by the hose. However, the Nie patent does not disclose the hose assembly of the presently pending independent claims. There is no disclosure in the Nie patent for use of a braided layer, nor is there any disclosure or suggestion in the Nie patent that a braided layer is required, necessary, or that such a braided layer can be added to the hose assembly without causing problems with the functionality of the hose assembly. Further, neither the Nie patent nor the King patents, alone or in combination, suggests or teaches the hose assembly of the presently pending independent claims. Since the King and Nie patents do not disclose the hose assembly of the presently pending independent claims, and there is no teaching or suggestion in either the Nie patent or the King patent, alone or in combination, for the hose assembly of the presently pending independent claims, the claims are patentable over the King patent in view of the Nie patent, and reconsideration of the rejection is respectfully requested.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over King in view of the Horne patent and further in view of the Martucci patent. Reconsideration of the rejection is respectfully requested.

The Office Action states that the King patent discloses the recited hose assembly comprising a tubular first layer made of a polymeric material resistant to chemical and heat degradation, which can be provided with carbon black to dissipate electrical charge, a jacket layer disposed about the inner layer, and at least one aramid fiber braided layer disposed between the inner and jacket layers, wherein glass fibers can be also used in combination with the aramid fibers. The

inner and jacket layers can be formed of a fluorocarbon material such as PTFE. Coupling means can be provided on the hose ends.

However, when read more specifically, the King patent discloses a hose assembly including an inner layer 12, a braided layer attached to the exterior of the inner layer, and a polymeric dispersion of coating 14 that is coated on the braided layer 13. Numeral 11, as stated in column 2, lines 45-50, is a tubular member. The tubular member includes therein the inner organic polymeric liner 12 and the braided layer. A coating 14 is placed about the braided layer and is used to adhere the braided layer to the inner liner 12. While the coating covers the yarn fibers of the braided layer, as stated in column 4, lines 58-63, the coating does not extend radially outward from the outer periphery of the braided layer. In fact, after the material has been coated, the yarn is discernable such that the braided layer is merely covered by a thin coating. This is in contradistinction with the assembly as claimed in the presently pending independent claims wherein the assembly includes a jacket that is extruded about the braided layer. The jacket is extruded about the braided layer and it is this extrusion process that enables the braided layer to be maintained in place after having been wound about the inner layer.

The outer jacket provides an exterior surface for additional protection. The jacket allows the first layer to be bent in a tighter radius without kinking as specifically disclosed on page 6, lines 8-20. The jacket provides strength to the first layer and further allows the hose assembly to accommodate a fluid under pressure. This is in contradistinction with the hose assembly of the King patent wherein a coating is merely used to affix the braid onto the inner layer and the coating does not extend radially outward from the braided layer. Additionally, while a coating can be used to affix the braid to the inner liner in the hose assembly of the presently pending independent claims, the jacket is used to protect the exterior of the hose assembly and further maintains the braid in its proper configuration. In the presently pending claims, the jacket does not function to affix the braid to the

inner liner; instead, the jacket helps maintain the braid in proper configuration without concern of affixing the braid to the inner layer.

The Office Action states further that the Horne patent discloses the recited hose assembly including an inner layer, and a reinforced layer made up of different fibers where the outer layer can be extruded over and then embedded in the reinforcement layer. However, the Horne patent does not disclose using an aramid-like braided layer for the reinforcing layer. The benefit of the aramid-like layer as claimed in the presently pending claims 8 and 9 are that it is capable of passing volumetric tests and whip tests better than a standard braided layer. The hose assembly is therefore more stable and better suited for use in a fuel system. Therefore, the Horne patent does not disclose or suggest the hose assembly of the presently pending claims 8 and 9.

There is no disclosure in the King or Horne patents that the braid must pass the volumetric and whip tests. Passing volumetric and whip tests guarantees that the braid provides sufficient strength to the hose assembly. There is no disclosure in the prior art that the braid must pass these tests. The braids that are used in the prior art therefore will not necessarily pass the tests and as such are not sufficiently strong and would not function in the same manner as the braid of the presently pending claims.

The Office Action also states that the cited Martucci patent discloses the recited hose assembly comprising an inner layer provided with a carbon black strip and a reinforcement woven layer, where a jacket layer can be extruded over the reinforcement and inner layers and can be formed of polyamides, including nylon 6 and others. However, as set forth above with regard to the King patent, the Martucci patent does not disclose extruding the jacket over the braid layer in order to maintain the braid layer in proper engagement with the inner liner. Further, the Martucci patent does not disclose the braid layer set forth in the presently pending independent claims. Accordingly, since neither the Martucci nor the King patent,

alone or in combination, teaches or suggests the hose assembly and method of the presently pending independent claims, the claims are patentable over the Martucci and King patents, and reconsideration of the rejection is respectfully requested.

Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over King in view of the Horne patent and further in view of the Martucci patent. Reconsideration of the rejection is respectfully requested.

The Office Action states that the King patent discloses the recited hose assembly comprising a tubular first layer made of a polymeric material resistant to chemical and heat degradation, which can be provided with carbon black to dissipate electrical charge, a jacket layer disposed about the inner layer, and at least one aramid fiber braided layer disposed between the inner and jacket layers, wherein glass fibers can be also used in combination with the aramid fibers. The inner and jacket layers can be formed of a fluorocarbon material such as PTFE. Coupling means can be provided on the hose ends.

However, when read more specifically, the King patent discloses a hose assembly including an inner layer 12, a braided layer attached to the exterior of the inner layer, and a polymeric dispersion of coating 14 that is coated on the braided layer 13. Numeral 11, as stated in column 2, lines 45-50, indicates a tubular member. The tubular member includes therein the inner organic polymeric liner 12 and the braided layer. A coating 14 is placed about the braided layer and is used to adhere the braided layer to the inner liner 12. While the coating covers the yarn fibers of the braided layer, as stated in column 4, lines 58-63, the coating does not extend radially outward from the outer periphery of the braided layer. In fact, after the material has been coated, the yarn is discernable such that the braided layer is merely covered by a thin coating. This is in contradistinction with the assembly as claimed in the presently pending independent claims, wherein the assembly includes a jacket that is extruded about the braided layer, thus creating a firm bond

between the extruded layer and the braided layer. The jacket is extruded about the braided layer and it is this extrusion process that enables the braided layer to be maintained in place after having been wound about the inner layer.

The outer jacket provides an exterior surface for additional protection. The jacket allows the first layer to be bent in a tighter radius without kinking as specifically disclosed on page 6, lines 8-20. The jacket provides strength to the first layer and further allows the hose assembly to accommodate a fluid under pressure. This is in contradistinction with the hose assembly of the King patent, wherein a coating is merely used to affix the braid onto the inner layer and the coating does not extend radially outwardly from the braided layer. Additionally, while a coating can be used to affix the braid to the inner liner in the hose assembly of the presently pending independent claims, the jacket is used to protect the exterior of the hose assembly and further maintains the braid in its proper configuration. In the presently pending claims, the jacket does not function to affix the braid to the inner liner. Instead, the jacket helps maintain the braid in proper configuration without concern of affixing the braid to the inner layer.

The Office Action states further that the Horne patent discloses the recited hose assembly including an inner layer, and a reinforced layer made up of different fibers where the outer layer can be extruded over and then embedded in the reinforcement layer. However, the Horne patent does not disclose using an aramid-like braided layer for the reinforcing layer. The benefit of the aramid-like layer as claimed in the presently pending claims is that is capable of passing volumetric tests and whip tests better than a standard braided layer. The hose assembly is therefore more stable and better suited for use in a fuel system. Therefore, the Horne patent does not disclose nor suggest the hose assembly of the presently pending claims.

There is no disclosure in the King or Horne patents that the braid must pass the volumetric and whip tests. Passing volumetric and whip tests guarantees that

the braid provides sufficient strength to the hose assembly. There is no disclosure in the prior art that the braid must pass these tests. The braids that are used in the prior art therefore will not necessarily pass the tests and as such are not sufficiently strong and would not function in the same manner as the braid of the presently pending claims.

The Office Action also states that the Martucci patent discloses the recited hose assembly comprising an inner layer provided with a carbon black strip, a reinforcement woven layer, where a jacket layer can be extruded over the reinforcement and inner layers and can be formed of polyamides, including nylon 6 and others. However, as set forth above, with regard to the King patent, the Martucci patent does not disclose extruding the jacket over the braid layer in order to maintain the braid layer in proper engagement with the inner liner. Further, the Martucci patent does not disclose the braid layer set forth in the presently pending independent claims. Accordingly, since neither the Martucci nor the King patent, alone or in combination, teach or suggest the hose assembly and method of the presently pending independent claims, the claims are patentable over the Martucci and King patents, and reconsideration of the rejection is respectfully requested.

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the King patent in view of the Horne patent and further in view of the Kutnyak patent. Reconsideration of the rejection is respectfully requested.

The Office Action states that the King patent discloses the recited hose assembly comprising a tubular first layer made of a polymeric material resistant to chemical and heat degradation, which can be provided with carbon black to dissipate electrical charge, a jacket layer disposed about the inner layer, and at least one aramid fiber braided layer disposed between the inner and jacket layers, wherein glass fibers can be also used in combination with the aramid fibers. The inner and jacket layers can be formed of a fluorocarbon material such as PTFE. Coupling means can be provided on the hose ends.

However, when read more specifically, the King patent discloses a hose assembly including an inner layer 12, a braided layer attached to the exterior of the inner layer, and a polymeric dispersion of coating 14 that is coated on the braided layer 13. Numeral 11, as stated in column 2, lines 45-50, is a tubular member. The tubular member includes therein the inner organic polymeric liner 12 and the braided layer. A coating 14 is placed about the braided layer and is used to adhere the braided layer to the inner liner 12. While the coating covers the yarn fibers of the braided layer, as stated in column 4, lines 58-63, the coating does not extend radially outward from the outer periphery of the braided layer. In fact, after the material has been coated, the yarn is discernable such that the braided layer is merely covered by a thin coating. This is in contradistinction with the assembly as claimed in the presently pending independent claims wherein the assembly includes a jacket that is extruded about the braided layer. The jacket is extruded about the braided layer and it is this extrusion process that enables the braided layer to be maintained in place after having been wound about the inner layer.

The outer jacket provides an exterior surface for additional protection. The jacket allows the first layer to be bent in a tighter radius without kinking as specifically disclosed on page 6, lines 8-20. The jacket provides strength to the first layer and further allows the hose assembly to accommodate a fluid under pressure. This is in contradistinction with the hose assembly of the King patent wherein a coating is merely used to affix the braid onto the inner layer and the coating does not extend radially outwardly from the braided layer. Additionally, while a coating can be used to affix the braid to the inner liner in the hose assembly of the presently pending independent claims, the jacket is used to protect the exterior of the hose assembly and further maintains the braid in its proper configuration. In the presently pending claims, the jacket does not function to affix the braid to the inner liner; instead, the jacket helps maintain the braid in proper configuration without concern of affixing the braid to the inner layer.

The Office Action states further that the Horne patent discloses the recited hose assembly including an inner layer, and a reinforced layer made up of different fibers where the outer layer can be extruded over and then embedded in the reinforcement layer. However, the Horne patent does not disclose using an aramid-like braided layer for the reinforcing layer. The benefit of the aramid-like layer as claimed in the presently pending claims is that is capable of passing volumetric tests and whip tests better than a standard braided layer. The hose assembly is therefore more stable and better suited for use in a fuel system. Therefore, the Horne patent does not disclose nor suggest the hose assembly of the presently pending claims.

There is no disclosure in the King or Horne patents that the braid must pass the volumetric and whip tests. Passing volumetric and whip tests guarantees that the braid provides sufficient strength to the hose assembly. There is no disclosure in the prior art that the braid must pass these tests. The braids that are used in the prior art therefore will not necessarily pass the tests and as such are not sufficiently strong and would not function in the same manner as the braid of the presently pending claims.


The Office Action also states that the Kutnyak patent discloses the recited method for forming a hose assembly comprising providing an inner layer, and dipping the layer in an adhesive before applying a reinforcement layer over the inner layer to adhere the reinforcement to the inner tube. However, claim 18 has been amended to further include the step of extruding an outer jacket about the braided layer thereby maintaining the braided layer in place. This is not disclosed by the Kutnyak patent, nor is it suggested by the Kutnyak patent. Since neither the King patent nor the Kutnyak patent, alone or in combination, teach or suggest the method of the presently pending independent claim, the claim is patentable over the prior art, and reconsideration of the rejection is respectfully requested.

In view of the present amendment and foregoing remarks, reconsideration of the rejections and advancement of the case to issue are respectfully requested.

The Commissioner is authorized to charge any fee or credit any overpayment in connection with this communication to our Deposit Account No. 11-1449.

Respectfully submitted,

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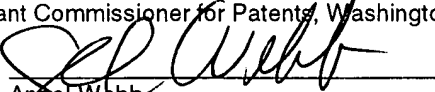
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Angel Webb

VERSION WITH MARKINGS TO SHOW CHANGES MADE

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IN THE CLAIMS:

1. (Thrice Amended) A hose assembly comprising:
a tubular first layer[,] comprising a polymeric material resistant to chemical and heat degradation;
at least one aramid-like braided layer capable of passing a volumetric test and whip test, said braided layer disposed about said inner layer; and
[an extruded] jacket means extruded [disposed] about said braided layer, said jacket means being [for maintaining] affixed to said braided layer, for maintaining said braided layer in place.
6. The hose assembly according to claim 2, wherein said polymeric material of said jacket is a polyamide material.

Please cancel claim 15.

19. (Amended) A hose assembly comprising:
a tubular first layer[,] comprising a polymeric material resistant to chemical and heat degradation;
at least one braided layer capable of passing a volumetric test and whip test, said braided layer disposed about said inner layer; and
[an extruded] jacket extruded [disposed] about said braided layer, said jacket being [maintaining] affixed to said braided layer for maintaining said braided layer in place.